Forward scattering radar: current and future applications

ABSTRACT

Forward scattering radar (FSR) is a special mode of bistatic radar that can be used for target detection and classification. FSR offers a number of interesting features such as: relatively simple hardware; an enhanced target radar cross section (compared to traditional radar); a long coherent interval of the receiving signal; robustness to stealth technology and possible operation using non-cooperative transmitters. This paper discusses the FSR technology, the current and possible applications as well as the limitations of FSR. All claims in the paper are supported by the experimental result of the FSR feasibility study to the automatic ground target detection and classification. The paper introduces the radar system itself, this include the overall classification system and the extraction of features from the radar measurements.

Keyword: Forward scattering radar; Ground target; Target classification